

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY :

Petition for approval of delivery services tariffs and : No. 01-
tariff revisions and of residential delivery services :
implementation plan, and for approval of certain :
other amendments and additions to its rates, terms, :
and conditions :

Direct Testimony of

DANIEL E. THONE

Director of Planning & Analysis
Commonwealth Edison Company

OFFICIAL FILE

I.C.C. DOCKET NO. 01-0423
ComEd Exhibit No. 8.0
Witness Thone
Date 11-6-01 Reponder Dm

ComEd Ex. 8.0

Table of Contents

Background & Qualifications	1
Overview of Testimony	3
Risk Factors Affecting Utility Return on Equity	4
ComEd's Approach to Estimating its Required Return on Equity	7
Cost of Equity Adjustments for ComEd's Specific Leverage	8
Methodologies to Calculate Return on Equity	12
Discounted Cash Flow Analysis	12
Capital Asset Pricing Model Analysis	16
Comparable ROE Expectations	21
Other Issues with ROE Estimations	22
Summary of Results	23

1 Q. Please state your name and business address.

2 A. My name is Daniel E. Thone. My business address is Three Lincoln Centre, Oakbrook
3 Terrace, Illinois 60181-4260.

4 Q. By whom are you employed and in what capacity?

5 A. I am Director of Planning and Analysis for Commonwealth Edison Company
6 ("ComEd").

7 **Background & Qualifications**

8 Q. What are your duties and responsibilities as Director of Planning and Analysis?

9 A. I am responsible for cash management, risk management, project evaluation,
10 revenue forecasting and financial planning sections within the finance area. As a
11 result, I am responsible for reconciling all the cash accounts, producing the cash
12 flow, forecasting interest expense and interest income, and working with
13 Treasurer's Staff to optimize financing. I am responsible for the identification of
14 risks within the company and establishment of policies, procedures and tools for
15 the proper mitigation of those risks. My management responsibilities include
16 economic analysis of large dollar discretionary expenditures in order to optimize
17 capital resources. I also have the responsibility for developing certain of the
18 company's forecasts. Finally, I manage the corporate financial modeling effort,
19 which includes coordination of the budget effort, variance reporting and scenario
20 development in support of the strategic planning effort.

21

22 Q. What other positions have you held at ComEd?

23 A. From 1990 through 1992, I was a Research Analyst in the Economic Analysis Section of
24 the Strategic Analysis Department. In 1993, I was promoted to Supervisor, Economic
25 Analysis, Strategic Analysis Department and remained in that position until 1996. In
26 1996, I was promoted to Financial Analysis Administrator in the Strategic Analysis
27 Department and later that year was promoted to Director of Strategic Analysis. I held the
28 position of Director of Strategic Analysis until May, 1998. I then served as Director of
29 Financial Planning until May 1999. I was assigned the responsibility of Assistant
30 Treasurer and held that position from May 1999 until October 2000 when I was named
31 Director of Finance. I assumed additional responsibilities in January 2001 and my title
32 was changed to Director of Financial Planning and Analysis.

33

34 Q. What business experience did you have prior to working for ComEd?

35 A. I was employed by NIPSCO Industries, Inc. ("NIPSCO") in 1975 as a District Engineer.
36 During my 15-year tenure at NIPSCO, I held various other engineering positions, was
37 promoted to Project Manager, then Senior Project Manager and finally to Senior Strategic
38 Planning Analyst.

39 Q. What is your educational background?

40 A. In 1975, I was awarded a Bachelors of Science Degree in Engineering from Purdue
41 University. I was awarded a Masters of Science in Business Administration in 1985,
42 from Indiana University and a Masters in Business Administration in 1991, also from
43 Indiana University.

44 **Overview of Testimony**

45 Q. What is the purpose of your testimony?

46 A. The purpose of my testimony is to present ComEd's minimum cost of equity. In reaching
47 my conclusion, I considered the results from appropriate methodologies (i.e. commonly
48 accepted financial techniques) that are used to estimate a fair cost of common equity. A
49 fair equity return must meet the expectations of investors and therefore must consider
50 investors' concerns that affect their investment decisions.

51 Q. What are your conclusions and recommendations?

52 A. Based on the analysis and data discussed in my testimony, I conclude that, based on its
53 proposed capital structure of 54% debt and 46% equity, ComEd's cost of equity is in the
54 range of 11.8 to 16.7 percent. Based on all the reasons discussed in this testimony, I
55 conclude that ComEd's cost of equity is, at a minimum, 13.25.

56 Q. How is your testimony organized?

57 A. I will discuss the following:

- 58 ♦ Need for granting fair market returns for a regulated utility
- 59 ♦ Risk issues facing ComEd and the impact of these issues on the Company's
60 stockholders
- 61 ♦ Adjustments to calculations, based on other companies, to account for ComEd's
62 specific leverage ratio
- 63 ♦ Methodologies used for calculating cost of common equity
- 64 ♦ Comparison to published ROE estimates of comparable utilities

65 Q. What is a fair market return on ComEd's common equity?

66 A. There are principles governing fair return which have been previously articulated in court
67 and utility regulatory decisions. These principles call for a regulated firm and its equity
68 investors to have the opportunity to earn a return on its investment which:

69 1) is commensurate with that of comparable risk enterprises;

70 2) provides confidence that the company can maintain its financial integrity;
71 and

72 3) is adequate to attract capital on reasonable terms

73 The first principle becomes a very important issue in calculating a proper market return
74 and the other two principles address the need for determining the proper market return by
75 regulators.

76 Q. Will you please discuss the need for determining the proper cost of equity?

77 A. The cost of common equity used in calculating a utility's revenue requirement must be
78 consistent with market expectations to ensure that regulation is meeting the company's
79 financial needs. Regulation must act as a surrogate for competition and provide a fair
80 return to investors, otherwise investors can readily invest in other enterprises that meet
81 their criteria for return on investments. The inability of a company to attract capital and
82 maintain financial viability will ultimately result in deteriorating operations and a risk to
83 providing continuous service.

84 **Risk Factors Affecting Utility Return on Equity**

85 Q. Why do risk factors affect return on equity?

86 A. There is a strong correlation between the risk that an investor is willing to undertake and
87 the return that he will expect. The greater the risk, the higher potential returns must be to

88 compensate for the volatility of the investment. Our economy has fluid capital markets
89 that allow investors many choices in which to invest their money. When investors cannot
90 expect adequate returns from one company, they can invest in another that will
91 compensate them for assumed risks.

92 Q. Does the restructuring of the electric utility industry affect the risks that will be
93 considered by an equity investor in a delivery services business?

94 A. Yes. By the very nature of making changes within the industry, there has been an
95 increase in perceived risks for the distribution utility. This risk is in part due to general
96 uncertainty, but there has been validation of real risks as experienced by utilities in
97 California and other states as they moved forward in the transition.

98 Q. What are some of the notable risks that have been experienced by distribution utilities?

99 A. One of the most important risks retained by distribution companies is the "obligation to
100 serve" or "provider of last resort" responsibility that traditional utilities have always
101 assumed. This "obligation to serve" requires that the utility provide energy to a customer
102 if that customer cannot, or chooses not to, find another supplier. This includes, for
103 example, customers who may have access to alternative suppliers but do not like the
104 prices those suppliers are offering. This last circumstance places a real burden on a
105 utility because it is likely that retail prices to that customer are below the market value.
106 The main driver for recent California debacles arose when utilities had to make retail
107 sales at prices below the prices at which they were able to buy energy in the wholesale
108 markets. With restructuring, utilities often do not have an adjustment mechanism for
109 power purchases and this exposes the "provider of last resort" to a significant risk. This

110 situation is indicative of business risks attributable to the restructuring of the industry.
111 Other distribution business risks facing ComEd and other distribution companies include:
112 legislative challenges, major capital expenditures for reliability, penalties due to service
113 interruptions, potential for customer bypass, and technological changes that can abruptly
114 alter historic load patterns. A full discussion of risks applicable to distribution companies
115 is contained in the direct testimonies of ComEd witnesses, Sam Peltzman, Christopher L.
116 Culp, ComEd Exhibits 9.0 and 10.0, respectively.

117 Q. What concerns has the financial community expressed regarding higher than originally
118 expected risks with utilities focusing on delivery services?

119 A. In the specific cases of California utilities, there has been significant concern resulting in
120 credit rating downgrades. Rating agencies have noted similar potential liability issues
121 with eastern utilities. Analysts have expressed concerns that some utilities may
122 experience depressed earnings due to these types of liabilities. Warnings of depressed
123 earnings will increase perceived risks, for which investors will seek higher compensation.

124 Q. In addition to the business risks facing a delivery services company's operations, are there
125 also financial risks relating to the company's capital structure?

126 A. Yes. Even if companies in the same industry experience the same business results,
127 companies that have greater percentages of debt in their capital structure will present a
128 greater risk to equity shareholders that there will not be adequate earnings to pay their
129 expected returns. Therefore, investors also consider financial risks when setting their
130 return expectations for a company's stock. Investors can adjust their traditional
131 calculations for return on equity to account for a specific company's leverage ratio.

When a company's leverage ratio exceeds the industry norm, investors would expect additional return to compensate for that additional financial risk.

ComEd's Approach to Estimating its Required Return on Equity

Q. What approach has ComEd used to estimate Return on Equity since it is no longer a publicly traded stock?

A. ComEd has chosen ten electric and eight gas utilities which have available financial data (i.e. they are publicly traded companies and covered by financial analysts) and are considered comparable to ComEd because they derive most of their revenues from utility operations. The electric companies were chosen because they, like ComEd, are not heavily focused on generation assets. Gas utilities were included due to their primary function as a delivery services provider, and the gas industry has already moved toward deregulation. We also used credit ratings -- a criterion that has been used by ICC witnesses in the past -- to select appropriate companies. Our analysis utilizes companies with similar credit ratings to ComEd, as established by Standard & Poors. The complete list of comparable companies and criteria data is provided in ComEd Exhibit 8.1, Schedule 1.

Q. How does ComEd use financial data from multiple companies and derive a value that is applicable to it?

A. The first step is to choose comparable companies so that variations in business risk are reasonable. Examining their sources of revenues and publicly established credit ratings help accomplish achieving comparability. The next step is to limit variations in financial

risks by unlevering¹ each company through appropriate modeling. As the variability between companies is reduced, they become more comparable on an equivalent basis, i.e. it is now more of a comparison between "apples and apples". Given this level of comparability, the companies' returns can be re-levered to the ComEd leverage ratio. Then, a market capitalization weighted average can be computed to provide an estimate of a portfolio of companies that have equivalent financial risk (i.e., because they have the same capital structure as ComEd). The simple average of estimates from the different methodologies is the final estimate for ComEd's expected return on equity.

Q. What methodologies did ComEd use to estimate expected return on equity?

A. ComEd used three basic methodologies to arrive at a relevant range of return on equity value that would be representative of ComEd's expected return on equity. These three methodologies are : (1) the Discounted Cash Flow (DCF) model, (2) the Capital Asset Pricing Model (CAPM), and (3) a comparison of Value Line estimates for Return on Equity for the same comparable companies ComEd used in the other two methodologies.

Cost of Equity Adjustments for ComEd's Specific Leverage

Q. Would you describe the concept behind adjusting a specific company's expected common equity return for its degree of leverage?

A. In addition to business risk that has traditionally been measured by the financial community, economic theory and models are becoming more sophisticated and

¹ Leverage is the extent to which a firm uses debt financing. Unlevering is a process which begins with observable parameters (which reflects a firm's leverage) and calculates new parameters for an equivalent equity-only firm, i.e. a firm that holds no debt or preferred stock.

differentiating between firms based on their financial risk attributable to differing capital structure. Essentially, a more highly levered company will have more interest payments to be paid before the equity investor has claim to a company's profit. As the debt load becomes larger and more cash is paid to bondholders, there becomes a greater possibility that there will not be sufficient profits to pay the equity investor, since debt obligations always have a higher claim to a company's available cash. As an investor recognizes additional risks associated with an equity investment, the investor requires a higher expected return to compensate for higher risk the investor is assuming. This relationship between debt and stock holdings is readily portrayed in leverage ratios.

Q. What specific adjustments has ComEd made in its modeling to capture effects of leveraging?

A. ComEd has used the Miller Model to adjust its discounted cash flow (DCF) modeling and the Hamada model to adjust its capital asset pricing model (CAPM) modeling. There have been no adjustments to the Value Line comparisons, but the Miller model could be used.

Q. Could you describe the Miller model and explain why it is appropriate to use that model to determine ComEd's cost of common equity?

A. Yes. The Miller model is a means of measuring the effect on the cost of common equity due to changes in leverage in the capital structure based on the classic theory developed by Modigliani and Miller ("MM"). The MM model proposition II is:

The cost of equity to a levered firm is equal to (1) the cost of the equity to an unlevered firm in the same risk class plus (2) a risk premium whose size depends on the differential between the costs of equity and debt to an

195 unlevered firm, the amount of financial leverage used, and the corporate
196 tax rate ²

197 This results in the Miller model formula used previously in ComEd ICC dockets which is
198 as follows:

199
$$k_L = k_U + (k_U - (1 - T) \times k_D) \times (D + P) / E$$

200 Where

201 k_L = leveraged cost of equity

202 T = Tax rate

203 k_U = unlevered cost of equity

204 k_D = risk free long-term cost of debt

205 $(D+P)/E$ = Debt-plus-Preferred Stock to Common Equity Ratio

206

207

208

 The Miller model has previously been approved by the Commission to examine
209 these effects on equity return when capital structure changes occur. Adjusting for the
210 capital structures of comparable companies used in the evaluation of cost of equity needs
211 to be consistent with the capital structure used to determine ComEd's average cost of
212 capital.

213 Q. How did you use the Miller model in your analysis?

214 A. The Miller model was used directly within the DCF methodology. After initial DCF
215 calculations provide a low and high estimate, the equivalent return on equity for an
216 unlevered firm is calculated for each company, for both the high and low estimates. This
217 unlevering calculation provides return on equity values that investors would expect for an

² As noted in *Financial Management - Theory and Practice* by Eugene F. Brigham and Louis C. Gapenski, eighth edition

unlevered firm. Now the estimates for all of the companies' assume the same level of financial risk. Those values are then re-levered using ComEd's proposed capital structure. The results are estimated returns on equity for multiple companies that now approximate both ComEd's business and financial risk profiles.

Q. What value does a portfolio of companies approximating ComEd's business and financial risks provide in calculating return on equity?

A. The portfolio of companies can be used as a proxy for ComEd because there is no direct public measurement. That portfolio represents investors' expectations of a common equity return from ComEd or its equivalent financial proxy. This is also why weighting by market capitalization is the best method to achieve portfolio results.

Q. Why wasn't the Miller model used in adjusting CAPM results?

A. The Miller model could be applied on the calculated results, but following the same logic, Dr. Robert Hamada developed a modification to the CAPM model to account for a company's financial risks due to its capital structure. The Hamada model specifically modifies the beta coefficient to account for leverage effects.

Q. Can you describe the important concepts in the Hamada model?

A. The most important concept is that the cost of equity in a levered firm includes return based on both business and financial risks. The incremental return for business risks is based on the unlevered beta and the market risk premium. The incremental return for financial risks is based on the unlevered beta, the market risk premium, the debt ratio, and

238 the tax shield associated with debt. The Hamada model directly modifies the beta
239 coefficient to account for leverage effects.

240 Q. What capital structure did you use in your application of the Miller and Hamada models?

241 A. We used ComEd's capital structure, which is set forth in ComEd's Exhibit 11.1, attached
242 to the testimony of Mr. John Ebright, ComEd Exhibit 11.0. For purposes of calculations,
243 rounded percentage values of 54% for debt and 46% for equity were used. There is no
244 proposed preferred stock.

245 **Methodologies to Calculate Return on Equity**

246 **Discounted Cash Flow Analysis**

247 Q. Can you describe the DCF approach to determining the cost of equity?

248 A. The DCF model incorporates two fundamental principles of finance theory in
249 determining the cost of equity. They are:

250 1. Investors value an asset based on future cash flows from that asset.

251 2. A dollar received in the future is valued less than a dollar received today.

252 Accordingly, a stock's price is equal to the present value of the cash flows investors
253 expect it to generate.

254 Q. How did you use the DCF model to determine the rate of return on equity required by
255 investors?

256 A. The model used in this analysis incorporates the timing associated with receiving
257 dividends. All utilities used in our analysis currently pay dividends on a quarterly basis.

258 In order to account for the receipt of quarterly dividends, the model shown below was
259 used:

260
$$k = \frac{\sum_{q=1}^4 D_{0,q} (1+g)(1+k)^{1-[x+0.25(q-1)]}}{P_0} + g.$$

261 Where:

262 P_0 = Price per share of the company's stock at time period zero (now).

263 $D_{0,q}$ = The last dividend paid at the end of quarter q , where $q = 1$ to 4

264 k = The return the investor expects to earn on an alternative investment of the
265 same risk, i.e., the investor's required rate of return.

266 x = The elapsed time between the stock observation and the first dividend
267 payment dates (in years).

268 g = The expected annual dividend growth rate.

269 The model assumes dividends will grow at a constant rate, and the stock price equals the
270 sum of the discounted value of each dividend.

271 Q. Has this particular version of the DCF model been used previously?

272 A. Yes. This model was used by ICC witness Alan S. Pregozen. See Docket No. 99-0117.
273 We have followed Mr. Pregozen's prescribed methodology.

274 Q. How is the growth rate parameter estimated?

275 A. The price of a common share reflects the market's expectation of that particular firm's
276 future growth rate. This figure is not readily observable and is usually based on a

277 consensus of analysts' estimates. In order to gather a consensus of estimates, the
278 earnings growth estimates provided by Zacks³ and I/B/E/S⁴ were used. ComEd Exhibit
279 8.1, Schedule 2 contains the consensus estimates from both sources.

280 Q. How was the stock price determined?

281 A. Stock prices reflect all information that is available about a particular firm. The stock
282 prices shown in ComEd Exhibit 8.1, Schedule 3 are closing prices as of April 17, 2001⁵.

283 Q. What was the source for current dividend information?

284 A. The source for dividend information, for the last four quarterly dividends, is as reported
285 in Value Line for each comparable utility. I will describe Value Line in greater detail
286 later in my testimony.

287 Q. Can you explain how growth rates were applied to future dividends?

288 A. Yes. It is assumed that each comparable utility would increase its dividend by an amount
289 equal to the expected growth rate once during the next year. Exactly when this increase
290 occurred was dependent upon how many quarters had passed since the last dividend
291 increase. For example, if a utility increased its dividends two quarters ago, the
292 assumption is that the next increase would occur after another two quarters have passed.
293 In the event that the utility had not increased its dividend during the past four quarters, it
294 is assumed it would be increased next quarter and remain at that level for the next year.

³ <http://my.zacks.com> 4/13/01

⁴ <http://online.ibes.com> 4/12/01

⁵ per <http://Quicken.com> 4/18/01

295 Dividend dates and expected dividend amounts are set forth on ComEd Exhibit 8.1,
296 Schedule 3.

297 Q. How does the elapsed time between the stock observation and the first dividend payment
298 date, in years, apply to the calculation?

299 A. Accurately determining the value of the next anticipated dividend requires measuring the
300 time between the date the stock price is observed (here, April 17, 2001) and the dividend
301 payment date. All subsequent dividends were assumed to be paid on a quarterly basis
302 following the next dividend payment and discounted accordingly.

303 Q. Did you adjust the results of the DCF analysis to account for financial leverage
304 differences between ComEd and the sample companies?

305 A. Yes. After a DCF analysis was performed on each utility, an adjustment for the
306 differences in financial leverage (as discussed above) was required. In order to
307 account for these differences, the Miller Model was applied.

308 The Miller Model calculates the cost of equity for an unleveraged company using
309 its levered cost of equity, a risk free cost of debt and a debt plus preferred stock to
310 common equity ratio. In this analysis, each firm's levered cost of equity was unlevered
311 by its own capital structure, then re-levered using ComEd's capital structure. The Miller
312 model as used in this portion of the analysis is as follows:

313
$$k_L = k_U + (k_U - (1 - T) * k_D) * (D+P)/E$$

314 Where:

315 k_L = The levered cost of equity

316 k_U = The unlevered cost of equity

317 T = The corporate tax rate

318 k_D = The risk-free interest rate

319 $(D+P)/E$ = Debt plus preferred stock to common equity ratio

320 Once the Miller Model calculations were completed for each utility, a weighted average,
321 based on market capitalization, was applied to the results.

322 Q. Based upon the DCF analysis, what is the required return for your comparable electric
323 and gas utilities?

324 A. Based upon the DCF methodology and the necessary Miller Model adjustment, the
325 required return for the electric comparables ranged from 11.41% to 14.99%, with a
326 midpoint of 13.20%. The required return for the gas comparables ranged from 16.38% to
327 16.99%, with a midpoint of 16.68%. Additional information is provided in ComEd
328 Exhibit 8.1, Schedules 4 and 5.

329 **Capital Asset Pricing Model (CAPM) Analysis**

330 Q. Will you describe the Capital Asset Pricing Model?

331 A. Yes. It is beneficial to begin with a short discussion of business risks seen by investors.
332 Business risks reflect the variation in profitability that exists between companies. These
333 business risks can be categorized as systematic and non-systematic risks. An investor can
334 diversify away non-systematic risk by investing in a portfolio of multiple companies. As
335 more companies are added to the portfolio, it will more closely represent the market
336 itself.

337 CAPM measures investors' expected equity return for a particular firm (R_s),
338 accounting for systematic risk compared to the overall equity market. The CAPM

requires the calculation of several inputs. First, an estimate of a risk-free rate (R_{rf}) must be determined. Second, the expected return to the market as whole (R_m) must be determined. The risk-free rate is then subtracted from the market return to obtain the Market Risk Premium (MRP), an indication of the premium investors require over the risk-free rate for risk assumed by purchasing equities. Third, the individual firm's beta (β), or relative risk in relation to the equity market as a whole, is calculated. The beta is then multiplied by the market risk premium to obtain the risk premium associated with that particular firm. Finally, the resulting risk premium is added to the risk-free rate to calculate an individual firm's required equity return. The CAPM is mathematically depicted as

$$R_s = R_{rf} + \beta \times (R_m - R_{rf})$$

Q. Did your application of the CAPM account for financial leverage?

A. Yes. In order to estimate an accurate beta, the CAPM model was adjusted to account for the fact that ComEd's leverage differs from that of the comparable utilities. This difference in financial leverage had to be removed prior to calculation of the comparable utilities' betas. Once the unlevered beta was determined, it was re-levered for ComEd's capital structure. As per Brigham and Gapenski, *Financial Management, Theory and Practice, Seventh Edition* at 542-543, "[T]he beta of any firm is equal to the beta the firm would have if it used zero debt, adjusted upward by a factor that depends on (1) the corporate tax rate and (2) the amount of financial leverage employed. Therefore, the

firm's market risk, which is measured by β (beta), depends on both the firm's business risk as measured by β_u and its financial risk as measured by:⁶

$$\beta - \beta_u = \beta_u * (1-T) * (D/S).$$

These relationships can be used to help estimate a company's or a division's cost of equity. In both instances, we proceed by obtaining betas for similar publicly traded firms and then 'lever them up or down' to make them consistent with our own firm's (or division's) capital structure and tax rate. The result is an estimate of our firm's (or division's) beta, given (1) its business risk as measured by the betas of the other firms in the same line of business and (2) its financial risk as measured by its own capital structure and tax rate".

Q. What information is used to determine the risk-free rate?

A. The current yield of thirty-year U.S. Treasury bonds (5.71%) was used as a measure of the risk-free rate⁷.

Q. Why was the thirty-year U.S. Treasury bond used as an estimate of the risk-free rate?

A. The proxy for the risk-free rate should reflect similar expectations for inflation as the security being evaluated and be virtually risk-free. The proxy's duration, or life expectancy, should also be similar to the duration of the equity investment. The thirty-

⁶ This equation can also be shown as $\beta = \beta_u[1 + (1 - T) * (D/S)]$. Additionally, when revised to account for preferred stock, the equation becomes $\beta = \beta_u[1 + \beta_u * (P/S) + (1 - T) * (D/S)]$, as used in this testimony.

⁷ The Federal Reserve Board, *Federal Reserve Statistical Release: Selected Interest Rates, H15 Daily Update*, <http://federalreserve.gov/releases/H15/update/>, April 27, 2001.

376 year T-Bond most closely matches the long-term duration of the equity investment. It is
377 also virtually risk-free because it is an obligation of the Federal Government.

378 Q. How is the investor's expected return to the market estimated?

379 A. The investors' expected return to the market was estimated by using the Standard &
380 Poors 500 (S&P 500) as a proxy for the market as a whole. This was accomplished by
381 performing a DCF analysis of each company within the index, and then taking a weighted
382 average, based upon market capitalization, of the results. Dividends, closing market
383 prices, and the number of common shares as published in the April 2001 edition of
384 *Standard and Poors Security Owner's Stock Guide* were utilized. Growth rate estimates
385 were obtained from *Zacks Earnings Forecaster*, March 2001, and I/B/E/S online.⁸ Firms
386 not paying a dividend as of March 31, 2001 or without growth rate estimates from either
387 Zacks or I/B/E/S were excluded from the analysis. The weighted average results of the
388 DCF analysis of the remaining 351 companies, comprising 79.39% of the S&P 500's
389 market capitalization, was 15.69%.

390 Q. What is the resulting market risk premium?

391 A. By subtracting the risk-free rate (5.71%) from the expected return of the market
392 (15.69%), the market risk premium was determined to be 9.98%.

393 Q. How was the ComEd beta estimated?

⁸ <http://www.ibes.com/> April 29, 2001

394 A. Because ComEd's stock is no longer actively traded and its beta is no longer published,
395 an estimation had to be developed. This was accomplished by first obtaining the levered
396 betas as published in Value Line for our group of comparable electric and gas utilities.
397 The betas were then unlevered using the methodology described above, and re-levered
398 using ComEd's Debt/Equity Ratio.

399 Q. Why were Value Line betas chosen?

400 A. Value Line betas have been consistently used by the ICC staff in previous rate cases. For
401 example, please see ICC Docket No. 00-0802, Direct Testimony of Michael McNally,
402 and ICC Docket No. 99-0117, Direct Testimony of Alan S. Pregozen. ComEd agrees
403 with the use of Value Line betas for the reasons cited in those dockets.

404 Q. What calculations did ComEd perform to arrive at its CAPM estimate for return on
405 equity?

406 A. As discussed above, the beta of each comparable utility was unlevered by removing debt
407 from the equation. This was calculated for each utility by using the Hamada model,
408 $\beta = \beta_u[1 + P/S + (1 - T) * (D/S)]$, which can be expressed as:

409
$$\beta_u = \frac{\beta}{(1 + (P/S) + ((1 - T) * D/S))}$$

410

411 where β_u = the unlevered beta, P = value of preferred stock, S = market value of equity,
412 T = the corporate tax rate, and D = value of total debt.

413 Once each beta was unlevered, it was then re-levered using ComEd's debt/equity
414 ratio of 1.17 (54/46), and a rate of return was calculated using the Hamada version of the
415 CAPM equation along with the risk-free rate of 5.71%, the market return of 15.69% and a

resulting MRP of 9.98%, and ComEd's corporate tax rate of 39.67%. The equation is as follows:

$$R_s = R_{rf} + ((\beta_u * (1 + ((1 - T) * D/E)))) * MRP)$$

A weighted average, based upon market capitalization, was then applied to the resulting returns to equity.

Q. What are the results of the CAPM analyses?

A. The CAPM model estimates for the electric comparables range from 10.20% to 12.47%, with a weighted average of 11.78%. The CAPM results for the gas comparables ranged from 12.36% to 14.01%, with a weighted average of 13.40%. The calculated values are shown in ComEd Exhibit 8.1, Schedule 6.

Comparable ROE Expectations

Q. How did ComEd determine comparable return on equity expectations?

A. ComEd has chosen the same comparable companies used in the DCF and CAPM analyses. Value Line provides return on equity estimates for companies on which it reports data. This methodology is a straightforward observation of Value Line's analysis and reporting of returns on equity.

Q. What is the basis for the Value Line estimates?

A. Value Line specifically lists its estimates for future years. The current estimates are reported for the period 2003 through 2005.

Q. How do Value Line estimates affect investor expectations?

436 A. Value Line is a well-respected source of investment information that has been in the
437 business for 70 years. Many investors rely on it for reliable and impartial reporting.
438 Future estimates provided by Value Line are used by investors in setting their return
439 expectations, as well as for garnering investment ideas and comparing firms within an
440 industry.

441 Q. Does ComEd unlever and re-lever the Value Line estimates?

442 A. No. ComEd has not unlevered and re-levered the Value Line estimates because it is
443 unclear, given the expected sophistication and thoroughness of Value Line analyses, if
444 investors would expect more return on equity than reported in *The Value Line Investment*
445 *Survey*.

446 Q. What are the results of the Value Line return on equity analysis?

447 A. The Value Line expected return on equity for ComEd's comparable utilities range from
448 11% to 23%. The market weighted average of electric utilities is 14.13%; and the market
449 weighted average for the gas utilities is 13.37%. The complete listing is provided as
450 ComEd Exhibit 8.1, Schedule 7.

451 **Other Issues with ROE Estimations**

452 Q. Is there a difference between basing return on equity calculations on book values versus
453 market values?

454 A. Yes. The market investor does not consider book values in his evaluation of companies.
455 Return expectations are based on market values. If a company issues new stock, the price
456 paid by an investor is the current stock price which is the same as market value.

457 Q. How would return on equity estimates be affected when applied to book value for equity?

458 A. Usually, a company's market value of equity exceeds its book value. Given that an
459 investor's return expectation is based on market value, the same return available to the
460 investor will be a higher percentage of the smaller book value. In other words, where
461 market value is greater than book value, a calculated return on book value will have to be
462 higher than the same return calculated on market value.

463 **Summary of Results**

464 Q. Can you provide a summary of the return on equity analysis?

465 A. ComEd has calculated the return on equity for electric utility comparables and gas utility
466 comparables using DCF and CAPM methodologies and has reviewed Value Line return
467 on equity projections. The comparables were treated as a portfolio that began with
468 similar business risks and was then adjusted to reach the same financial risks. The best
469 estimates for the equivalent portfolio from electric utilities are: DCF = 13.20% (midpoint
470 of high and low growth estimates); CAPM = 11.78%, and Value Line = 14.13%. This
471 results in an "electric utility portfolio" average of 13.04%.

472 The best estimates for the equivalent portfolio from gas utilities are: DCF =
473 16.68% (midpoint of high and low growth estimates); CAPM = 13.40%, and Value Line
474 ROE projections = 13.37%. This results in a "gas utility portfolio" average of 14.49%.
475 Weighing the electric and gas portfolio estimates by the market capitalization of the
476 underlying companies results in an expected ROE value of 13.46%. This is summarized
477 in ComEd Exhibit 8.1, Schedule 8.

478 Q. What is your conclusion?

479 A. ComEd has systematically and fairly evaluated the return on equity that its investors will
480 expect. ComEd's approach has been to: select highly representative utility companies as
481 comparables, utilize standardized practices and methodologies in calculations, identify
482 emerging business risks in the industry and company specific financial risks, and follow
483 the accepted procedures established by the ICC. Because of the overall approach taken,
484 ComEd's conclusion is that its cost of equity is conservatively estimated to be at least
485 13.25%.

486 Q. Does this conclude your testimony?

487 A. Yes.

Schedule 1**List of Comparable Utilities**

	Revenue from Utility Operations	S&P Rating	Market Cap	Total Debt	Preferred Stock
Electric Utility					
Cinergy	95.43%	BBB+	\$5,100	\$3,838	\$81
ConEd, Inc	91.74%	A	\$7,800	\$5,624	\$250
DPL, Inc	88.63%	BBB+	\$3,900	\$1,798	\$552
DQE, Inc	85.92%	BBB+	\$1,800	\$1,504	\$247
Energy East	94.48%	A-	\$2,200	\$2,745	\$44
Idacorp, Inc	81.98%	A	\$1,800	\$855	\$106
Kansas City P & L	99.57%	A-	\$1,700	\$1,130	\$189
Nstar	100.00%	A-	\$2,200	\$2,621	\$93
PEPco	85.27%	A	\$2,500	\$3,368	\$215
UIL Holdings	77.46%	BBB+	\$700	\$603	\$0

	Revenue from Utility Operations	S&P Rating	Market Cap	Total Debt	Preferred Stock
Gas Utility					
Atmos Energy	91.76%	A-	\$900	\$549	\$0
Cascade Natural Gas	100.00%	BBB+	\$225	\$135	\$0
Keyspan	91.63%	A	\$5,400	\$2,503	\$84
New Jersey Resources	64.25%	A	\$700	\$433	\$0
Nicor, Inc	82.51%	A+	\$1,700	\$914	\$6
Northwest Natural Gas	100.00%	A	\$600	\$479	\$35
Peoples Energy	78.59%	A+	\$1,600	\$1,160	\$0
Piedmont	100.00%	A	\$1,100	\$583	\$0

Schedule 2**Growth Rate Estimates**

Electric Utility	Growth Estimates		Growth Estimates	
	IBES¹	Zacks²	Low Growth	High Growth
Cinergy	5.43%	5.00%	5.00%	5.43%
ConEd	7.70%	3.50%	3.50%	7.70%
DPL	9.06%	9.69%	9.06%	9.69%
DQE	6.86%	6.53%	6.53%	6.86%
Energy East	9.26%	6.00%	6.00%	9.26%
Idacorp, Inc	4.00%	10.00%	4.00%	10.00%
Kansas City P & L	5.33%	5.55%	5.33%	5.55%
Nstar	11.94%	6.67%	6.67%	11.94%
PEPco	5.21%	4.66%	4.66%	5.21%
UIL Holdings	3.67%	3.00%	3.00%	3.67%

Gas Utility	Growth Estimates		Growth Estimates	
	IBES³	Zacks⁴	Low Growth	High Growth
Atmos Energy	6.93%	7.20%	6.93%	7.20%
Cascade Nat'l Gas	4.27%	3.83%	3.83%	4.27%
Keyspan Corp	9.64%	9.62%	9.62%	9.64%
New Jersey Res.	6.83%	6.43%	6.43%	6.83%
Nicor, Inc	6.13%	6.48%	6.13%	6.48%
Northwest Nat'l Gas	4.33%	6.40%	4.33%	6.40%
Peoples Energy	6.25%	5.93%	5.93%	6.25%
Piedmont Nat'l Gas	5.43%	7.50%	5.43%	7.50%

¹ [http:// www.ibes.com](http://www.ibes.com) 4/12/01, 4/13/01² [http:// www.my.zacks.com](http://www.my.zacks.com) 4/13/01³ [http:// www.ibes.com](http://www.ibes.com) 4/16/01⁴ [http:// www.my.zacks.com](http://www.my.zacks.com) 4/16/01

Schedule 3**Quarterly Dividends and Stock Prices**
As of 4/17/01

	04/17/2001 ⁵	Current Quarterly Dividend ⁶				Next Dividend Payment Date
Electric Utility	Stock Price	D _{0,1}	D _{0,2}	D _{0,3}	D _{0,4}	
Cinergy	\$35.41	\$0.450	\$0.450	\$0.450	\$0.450	5/15/01
ConEd	\$38.59	\$0.545	\$0.545	\$0.545	\$0.550	6/15/01
DPL	\$30.02	\$0.235	\$0.235	\$0.235	\$0.235	6/01/01
DQE	\$30.78	\$0.400	\$0.400	\$0.400	\$0.420	7/01/01
Energy East	\$19.97	\$0.220	\$0.220	\$0.220	\$0.230	5/15/01
Idacorp, Inc	\$40.80	\$0.465	\$0.465	\$0.465	\$0.465	5/15/01
Kansas City P&L	\$26.45	\$0.415	\$0.415	\$0.415	\$0.415	6/20/01
Nstar	\$38.65	\$0.500	\$0.500	\$0.500	\$0.515	5/01/01
PEPco	\$22.24	\$0.415	\$0.415	\$0.415	\$0.250	6/30/01
UIL Holdings	\$50.29	\$0.720	\$0.720	\$0.720	\$0.720	7/01/01
Gas Utility	Stock Price	D _{0,1}	D _{0,2}	D _{0,3}	D _{0,4}	
Atmos Energy	\$22.48	\$0.29	\$0.29	\$0.29	\$0.29	6/12/01
Cascade Natural Gas	\$19.85	\$0.24	\$0.24	\$0.24	\$0.24	5/15/01
Keyspan Corporation	\$40.82	\$0.45	\$0.45	\$0.45	\$0.45	5/01/01
New Jersey Resources	\$42.90	\$0.43	\$0.43	\$0.43	\$0.44	7/01/01
Nicor, Inc	\$39.69	\$0.42	\$0.42	\$0.42	\$0.42	5/01/01
Northwest Natural Gas	\$23.29	\$0.31	\$0.31	\$0.31	\$0.31	5/15/01
Peoples Energy Corp.	\$40.97	\$0.50	\$0.50	\$0.50	\$0.51	7/15/01
Piedmont Natural Gas	\$36.30	\$0.37	\$0.37	\$0.37	\$0.39	7/15/01

⁵ <http://www.quicken.com> 4/17/01 closing prices⁶ Per Value Line

Schedule 4**DCF ROE Results**
(Low Growth Estimates)

Electric Utility	Initial DCF	Unlevered DCF	Relevered DCF
Cinergy	10.64%	7.516%	12.29%
ConEd	9.50%	6.898%	10.95%
DPL	9.06%	6.949%	11.06%
DQE	12.35%	7.961%	13.26%
Energy East	10.95%	6.754%	10.64%
Idacorp, Inc	8.97%	7.049%	11.28%
Kansas City P & L	12.30%	8.430%	14.28%
Nstar	12.47%	7.488%	12.23%
PEPco	9.38%	5.886%	8.75%
UIL Holdings	9.12%	6.493%	10.07%
		Weighted Average	11.41%

Gas Utility	Initial DCF	Unlevered DCF	Relevered DCF
Atmos Energy	12.57%	9.115%	15.77%
Cascade Natural Gas	9.10%	6.978%	11.13%
Keyspan Corporation	14.81%	11.127%	20.14%
New Jersey Resources	10.78%	7.976%	13.30%
Nicor, Inc	10.85%	8.247%	13.88%
Northwest Nat'l Gas	10.19%	7.080%	11.35%
Peoples Energy Corp.	11.19%	7.935%	13.21%
Piedmont Natural Gas	9.89%	7.657%	12.60%
		Weighted Average	16.38%

- (1) Unlevered results are re-levered to ComEd's ratio of 1.17 debt/equity ratio, based on 54% debt and 46% equity capital structure proposed by ComEd
- (2) Weighted averages are weighted by market capitalization

Schedule 5**DCF Results**
(High Growth Estimates)

Electric Utility	Initial DCF	Unlevered DCF	Relevered DCF
Cinergy	11.11%	7.78%	12.87%
ConEd	13.87%	9.39%	16.37%
DPL	13.35%	9.63%	16.88%
DQE	12.70%	8.13%	13.64%
Energy East	14.33%	8.25%	13.88%
Idacorp, Inc	15.43%	11.26%	20.43%
Kansas City P & L	12.54%	8.57%	14.58%
Nstar	17.98%	9.95%	17.60%
PEPco	9.95%	6.12%	9.26%
UIL Holdings	9.85%	6.88%	10.92%
		Weighted Average	14.99%

Gas Utility	Initial DCF	Unlevered DCF	Re-levered
Atmos Energy	12.86%	9.29%	16.16%
Cascade Nat'l Gas	9.57%	7.27%	11.77%
Keyspan	14.83%	11.14%	20.18%
New Jersey Resources	11.19%	8.23%	13.85%
Nicor, Inc	11.22%	8.49%	14.41%
Northwest Nat'l Gas	12.44%	8.30%	13.99%
Peoples Energy Corp.	11.52%	8.13%	13.62%
Piedmont Natural Gas	12.01%	9.05%	15.62%
		Weighted Average	16.99%

- 1) Unlevered results are re-levered to ComEd's ratio of 1.17 debt/equity ratio, based on 54% debt and 46% equity capital structure proposed by ComEd
- 2) Weighted averages are weighted by market capitalization

Schedule 6**CAPM Input Parameters**

Electric Utility	Value Line Beta	(D+P)/E Ratio	Unlevered Beta	ROE re-levered to ComEd
Cinergy	0.55	0.77	0.37	12.09%
ConEd	0.55	0.75	0.37	12.10%
DPL	0.55	0.60	0.39	12.31%
DQE	0.50	0.97	0.30	10.90%
Energy East	0.60	1.27	0.34	11.48%
Idacorp, Inc	0.50	0.53	0.37	12.05%
Kansas City P & L	0.60	0.78	0.40	12.47%
Nstar	0.55	1.23	0.31	11.03%
PEPco	0.50	1.43	0.26	10.20%
UIL Holdings	0.55	0.86	0.36	11.88%
			Weighted Average	11.78%

Gas Utility	Value Line Beta	(D+P)/E Ratio	Unlevered Beta	ROE re-levered to ComEd
Atmos Energy	0.55	0.61	0.40	12.56%
Cascade Nat'l Gas	0.55	0.60	0.40	12.59%
Keyspan	0.60	0.48	0.46	13.61%
New Jersey Resources	0.55	0.62	0.40	12.54%
Nicor, Inc	0.60	0.54	0.45	13.41%
Northwest Nat'l Gas	0.60	0.86	0.39	12.36%
Peoples Energy	0.70	0.73	0.49	14.01%
Piedmont	0.60	0.53	0.45	13.46%
			Weighted Average	13.40%

- 1) Unlevered results are re-levered to ComEd's ratio of 1.17 debt/equity ratio, based on 54% debt and 46% equity capital structure proposed by ComEd
- 2) Weighted averages are weighted by market capitalization

Schedule 7Value Line ROE Expectations

Electric Utility	<u>Market Cap</u>	<u>Value Line 2003 -2005 Expected ROE</u>
Cinergy	\$5,100	13.5%
ConEd, Inc	\$7,800	11.0%
DPL, Inc	\$3,900	23.0%
DQE, Inc	\$1,800	17.0%
Energy East	\$2,200	14.5%
Idacorp, Inc	\$1,800	12.0%
Kansas City P & L	\$1,700	14.0%
Nstar	\$2,200	13.0%
PEPco	\$2,500	12.5%
UIL Holdings	\$700	11.0%
	\$29,700	
Weighted Average		14.13%
Gas Utility		
Atmos Energy	\$900	20.0%
Cascade Natural Gas	\$225	16.0%
Keyspan	\$5,400	12.5%
New Jersey Resources	\$700	15.0%
Nicor, Inc	\$1,700	14.0%
Northwest Natural Gas	\$600	11.0%
Peoples Energy	\$1,600	12.0%
Piedmont	\$1,100	13.0%
	\$12,225	
Weighted Average		13.37%

Schedule 8Cost of Equity Summary**Electric Comparables**

CAPM	11.78%
Value Line ROE Estimates	14.13%
DCF*	13.20%
Average of three methods =	13.04%

Gas Comparables

CAPM	13.40%
Value Line ROE Estimates	13.37%
DCF*	16.68%
Average of three methods =	14.49%
Average of Electric & Gas =	13.76%
Weighted Average of Electric & Gas =	13.46%

*DCF represents midpoint of high and low growth weighted averages